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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	10/069,702
Filing Date	04 June 2002
First Named Inventor	Matsumoto, Akio
Art Unit	1731
Examiner Name	Lopez, Carlos N.
Attorney Docket Number	KNI-163-A

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 4,195,066	03-25-1980	Schwetz, et al.	
		US- 5,720,911	02-24-1998	Taylor, et al.	
		US- 4,004,934	01-25-1977	Prochazka, Svante	
		US- 4,524,138	06-18-1985	Schwetz, et al.	
		US- 5,505,899	04-09-1996	Sigl, et al.	
		US- 4,081,284	03-28-1978	Prochazka, et al.	
		US- 5,720,910	02-24-1998	Vlajic, et al.	
		US- 4,252,691	02-24-1981	Lipp, et al.	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		WO 00-68165	11-16-2000	Taylor, et al.		
		GB 2014193	08-22-1979	Atomic Energy Authority..		

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached. of the abstract.

KNI-163-A

IN THE UNITED STATE PATENT AND TRADEMARK OFFICE

Applicant:	Matsumoto, Akio
Serial No.:	10/069,702
US Filing Date:	04 June 2002
Group Art Unit:	1731
Confirmation No.:	3987
Examiner:	Lopez, Carlos N.
Title:	WET-TYPE COMPACTING METHOD FOR POWDER, PRODUCTION METHOD FOR SINTERED POWDER COMPACT, SINTERED POWDER COMPACT, AND APPARATUS USING SINTERED POWDER COMPACT

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

PRELIMINARY STATEMENT

The following statements pertain to the relevance of some of the references cited in the accompanying RCE to the above-identified application. These statements are not meant to be exhaustive, but rather representative.

1. As regards US Patent Number 4,195,066 issued to Schwetz, et al., assigned to Elektroschmelzwerk Kempten GmbH, and entitled "Process for the Production of Dense Sintered Shaped Articles of Polycrystalline Boron Carbide by Pressureless Sintering", the following disclosure appears relevant:
    - Fig. 1
    - Column 4, Line 58-Column 5, line 44
    - a polymer organic substance that is substantially insoluable in water is coated to boron carbide
    - phenolic resins are coked to form amorphous carbon in a yield of from 35 to 50% (Col. 4, lines 58-66)
    - The amount of amorphous carbon in the mixture should be within the range of from 0.5 to 10% of free carbon, based on the weight of the boron carbide. (Col. 4, line 67- Col. 5, line 1)
    - In carrying out the process according to the invention, first the boron carbide is homogeneously mixed with the carbon-containing component and, optionally, a temporary binder. Such homogeneous mixing is advantageously effected by carrying out the missing in an organic solvent for example acetone or an aliphatic alcohol having up to 6 carbon atoms. (Col. 5, lines 12-18).
    - To mold and shape the powder mixture into a desired form, any of the

conventional techniques generally used in the field of ceramics may be applied, -slip casting is listed (Col 5, lines 45-54).

2. As regards US Patent Number 5,720,911 issued to Taylor, et al., assigned to The Secretary of State for Defense in Her Britannic Majesty's Government, and entitled "Sintered Boron Carbide Articles", the following disclosure appears relevant:
    - Fig. 1
    - Column 1, lines 37-67
    - Column 3, lines 6 –
3. As regards US Patent Number 4,004,934 issued to Prochazka, assigned to General Electric Company, and entitled "Sintered Dense Silicon Carbide", the following disclosure appears relevant:
    - Col 4, line 6 – Col 5, line 4
    - Acrylic resin yield about 10% carbon on pyrolysis (Col 4, line 25)
    - Phenol-formaldehyde condensate-novolak which is soluble in acetone (Col. 4, line 27)
    - Slip casting, convenient dispersion medium is water (Col 5, lines 47-56)
4. As regards WO Patent Number 00/68165 (GB2349601) issued to Taylor, et al., and which the applicant is Secr Defence (GB), and entitled "Boron Carbide Case Bodies", the following disclosure appears relevant:
    - Page 5, Line 30 – page 6, line 3
    - The slurry is then poured into porous Plaster of Paris moulds
5. As regards US Patent Number 4,524,138 issued to Schwetz, et al., assigned to

Elektroschmelzwerk Kempten GmbH, and entitled "Substantially Pore-free Sintered Polycrystalline articles of Alpha-silicon Carbide, Boron Carbide and Free Carbon and Process for their Manufacture", the following disclosure appears relevant:

- Column 4, line 53-Column 5, line 6
- Fig. 3 and Column 13, line 46-line 54
- HIPS (Hot Isostatic Pressure Sinterring) – The effect of the hot isostatic post densification on the density, average grain size and flexural strength of the presureless-sintered articles of Examples 1 to 4 can be seen from Table 3 and FIG. 3. As can be seen, the flexural strength, of the samples that have been post densified to relative densities of more that 99.5% TD, is increased by from 14 to 35% with respect to the samples which are only pressureless-sintered, whereas the average grain sizes are virtually unchanged.

6. As regards US Patent Number 5, 505,899 issued to Sigl, et al., assigned to Elektroschmelzwerk Kempten GmbH, and entitled "Process for the Producing Bodies Based on Boron Carbide by Pressureless Sintering", the following disclosure appears relevant:

    - Column 1, lines 23-54
    - Column 4, lines 31-36
    - The homogeneous powder is made into a suitable shape by conventional known ceramic shaping processes, such as, for example, dry pressing, cold isostatic pressing, injection molding, extrusion or slip casting, with

formation of green bodies.

7. As regards Patent Number GB2014193 applied for by Atomic Energy Authority UK, and entitled "Sintered Boron Carbide Containing Free Carbon", the following disclosure appears relevant:
    - Page 1, line 14
8. As regards US Patent Number 4,081,284 issued to Prochazka et al., assigned to General Electric Company, and entitled "Silicon Carbide-boron Carbide Sintered Body", the following disclosure appears relevant:
    - Column 4, lines 6-54
    - Column 5, lines 19-57

Respectfully submitted,

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